

SUPER GRAPHIC®

*A Completely
new and modern
lightweight
4x5 camera*

*the All New
SUPER GRAPHIC
45*



SUPER GRAPHIC MANUAL

The Super Graphic, today's most modern 4 x 5 camera, boasts many new features in addition to those now found in Graflex-made press cameras. The following pages will review basic operation, but even more important, they will explain as fully as possible the purpose and use of the new features.

To "get the most for your money," be sure you study the instructions thoroughly. A fine camera, like any piece of precision equipment, cannot be operated at its best unless its advantages are understood.

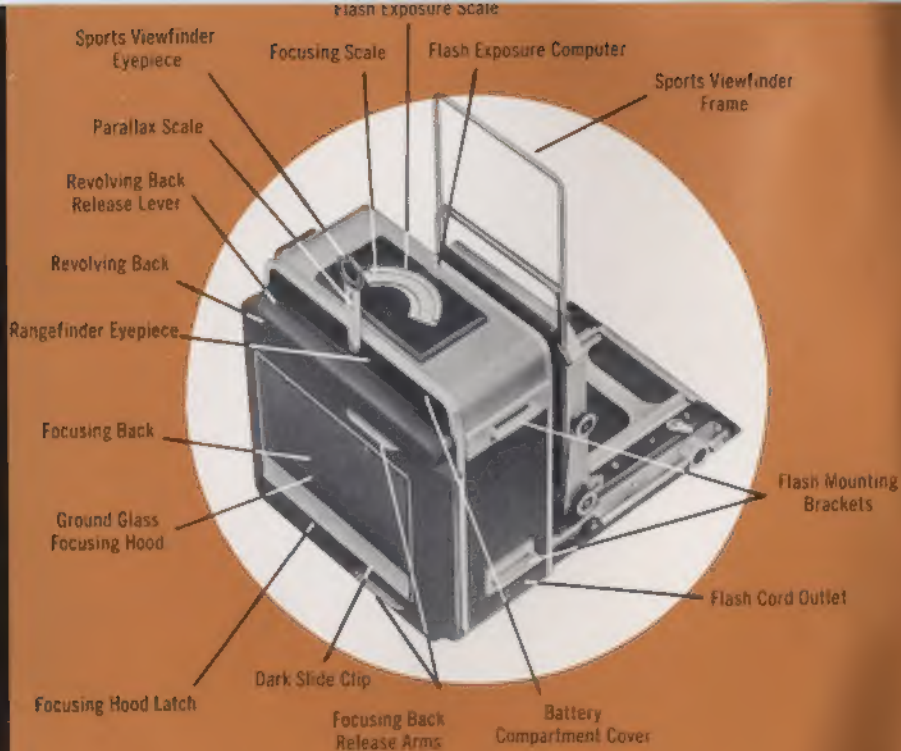
A bibliography appears on page 45 for those wishing to make a more thorough study of lighting, exposure, and other areas of photographic information.

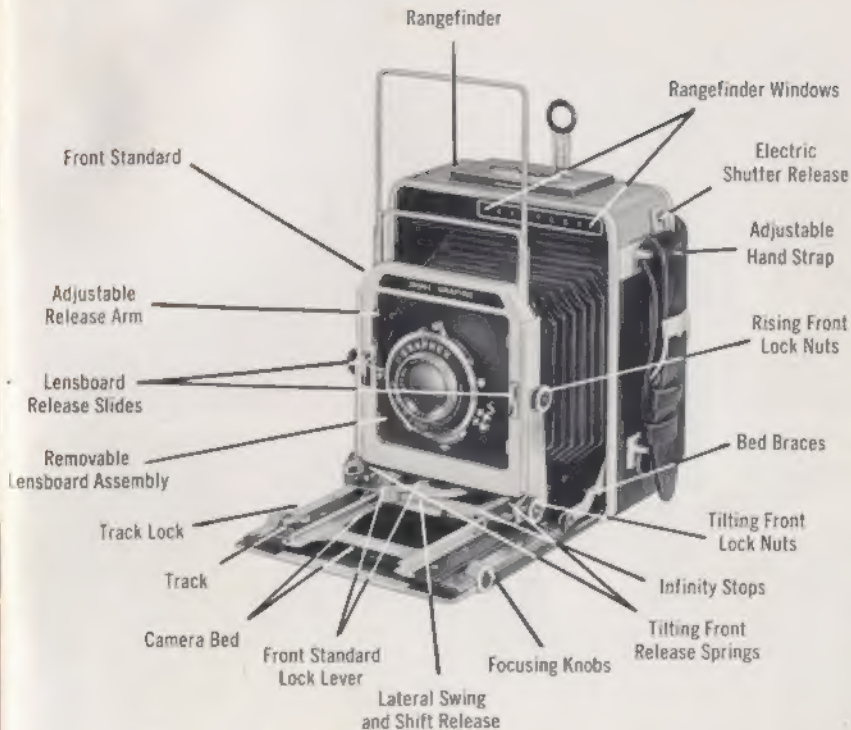


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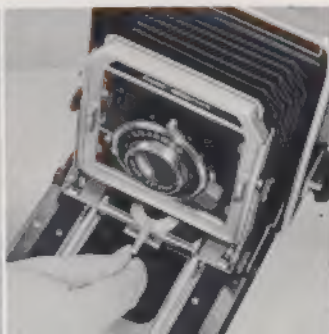
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OPENING THE CAMERA

1. Roll up either or both of the knurled *focusing knobs* on the face of the *bed*.
2. Pull down the *bed* until it locks in a horizontal position.
3. Rack the track back to its stop, swing the *front standard lock* lever out straight and pull outward on the track to the *infinity stops*; these stops are hinged and should be in an upright position. Fold the infinity stops
4. Be sure to relock the *front standard*.
5. Lift the *sports viewfinder frame* by pinching inward against the side of the coiled wire frame and pulling upward as far as possible. Swing the *sports viewfinder eyepiece* to an upright position and adjust parallax for 6', 8', and 15', or infinity.



CLOSING THE CAMERA

1. Close the *sports viewfinder frame*. Press evenly on both sides or tap the top member with the flat of the hand.
2. Swing down the *sports viewfinder eyepiece* at the back of the camera.
3. If the *front standard* movements have been used, return them to normal as follows:
 - a. Drop the lensboard to the lowest position and lock.
 - b. Tilt the lensboard back to its normal, vertical position. Lock it.
 - c. Bring the front standard and shift of the front standard to neutral.
4. Rack the *track* back to the limit of its movement.



5. Unlock the *front standard* and push it back into the camera body. Lock it.
6. Press down on the *bed braces* to release and close the *bed*.
7. Roll the *focusing knobs* DOWNWARD to lock the bed in the closed position.



INTERCHANGEABLE LENSES

The *long bellows* extension of the Super Graphic permits a choice of lenses ranging from wide angle (short focal length) to telephoto (long focal length). Infinity stops and *rangefinder cams* are used to match each lens. These lenses are discussed on page 44.

In order to use the Super Graphic built-in *electric shutter release*, each lens must be mounted on a Super Graphic lensboard assembly. These *lensboards* also fit onto the Pacemaker Graphic "45" Cameras.

CHANGING LENSES

1. To remove the lens and its board: move both *lensboard release slides* upward to unlock. Lift the lens and shutter assembly out.
2. To install a lens: insert the lensboard assembly with the shutter release toward the side of the camera as shown. Press lensboard firmly into the front frame and pull downward on both *lensboard release slides* to lock.



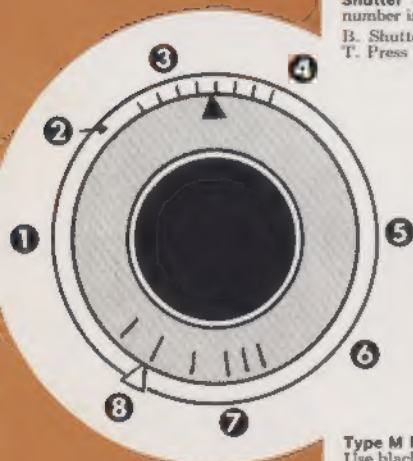
INFINITY STOPS

1. A set of *infinity stops* must be located to match the focal length of each lens used on the camera.

NOTE: Because of the variations between lenses and the precision curve of the interchangeable matching cams of the rangefinder, true focus for infinity and other distances can best be established only by being able to rack forward for *all distances*.

LENS FITTING SERVICES

Lens and shutter combinations can be mounted on Super Graphic lensboard assemblies by your local Service Dealer, or Graflex Service Center. We recommend that all lenses be measured optically for exact focal length, so that a matching *rangefinder cam* can be supplied with each lens. Be sure to identify and record each lens, matching cam, and set of infinity stops for future reference.



GRAPHEX (X) SHUTTER • Graphex Full Sync • All Sizes

Cock: Move lever 4 to the right for all speeds including B & T.

Trip: Press lever 1 down.

Shutter Speeds: Revolve knurled ring 2 until desired shutter speed number is over the index arrow head.

B. Shutter will stay open as long as lever 1 is held down.

T. Press lever 1 to open shutter, press again to close.

Press Focus: Cock shutter (any speed setting)

To OPEN: Pull down and in on lever 5.

To CLOSE: Lift lever 5 up.

Diaphragm Settings: Set lever 8 opposite f-number desired.

Cable Release: Attach at 3. Use straight tip or Kodak All-Metal.

Flash Connection: ASA Bi-Post at 6. Use Graflite cords 2701, 2702, and 2810.

SYNCHRONIZATION • GRAPHEX (X)

Electronic Flash: Internal contacts operate every time shutter is cocked and released.

Bulbs: Use external synchronized solenoid for type M bulbs.

SYNCHRONIZATION • GRAPHEX FULL SYNC.

Electronic Flash: Set lever 7 at F-X. Cock and release. Use any shutter speed.

SM and SF Bulbs: Set lever 7 at F-X. Cock and release. Use red shutter speeds only.

Type M Bulbs: Set lever 7 at black M. Cock and release. Use black shutter speeds only.

Set lever 7 at red M. Cock and release. Use red shutter speeds. This permits use of slightly higher guide numbers because of more complete use of bulb output at these lower speeds.

Graphex fully synchronized shutter can be synchronized with solenoid. When so used, lever 7 must be at "Off."

SUPERMATIC (X) SHUTTER • FLASH SUPERMATIC SHUTTER

Cock: Move lever 3 to right for all speeds including B and T

Trip: Press lever 1 down

Shutter Speeds: Revolve knurled ring until index arrow is over desired shutter speed number. Back arrow over black speeds

Red arrow over red speeds

B: Shutter will stay open as long as lever 1 is held down

T: Press lever 1 to open shutter. Press again to close

Press Focus: Cock shutter (any speed)

To OPEN: Press in on button 4 while pulling down lever 1

To CLOSE: Recock shutter

Diaphragm Setting: Set lever 7 opposite f number desired

Cable Release: Attach in cable release socket behind lever 1. Generally fitted with a small dust plug which can be removed

Flash Connection: ASA 111 Post at 5 on #2 shutters. At 6 on #1 shutters. Use Grubbie cords 2701, 2702, 2810

SYNCHRONIZATION • SUPERMATIC (X)

Electronic Flash: Internal contacts operate every time shutter is cocked and released

Bulbs: Use external synchronized solenoid for Type M bulbs

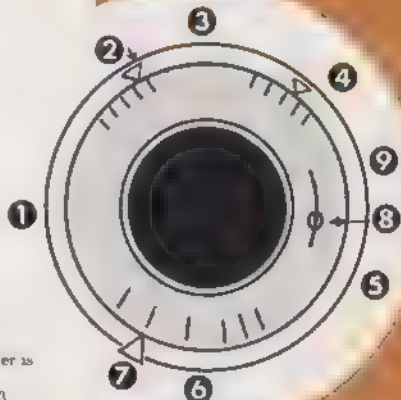
SYNCHRONIZATION • FLASH SUPERMATIC SHUTTER

Electronic Flash: Internal contacts operate every time shutter is cocked and released

SM and SF Bulbs: Set lever 8 at F. Cock shutter with lever 3. Additionally pull down cocking lever 9. Release with lever 1

Type M Bulbs: Set lever 8 at M. Cock with lever 3. Additionally pull down cocking lever 9 and trip with lever 1

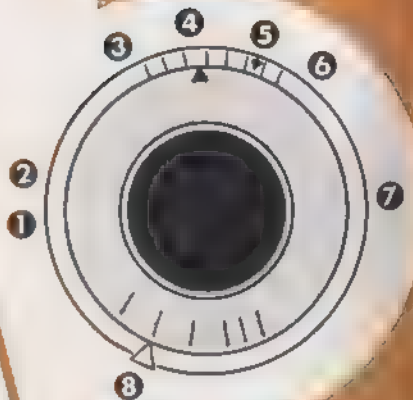
Flash Supermatic Shutter must not be used with solenoid



• USING LENSES ON SUPER GRAPHIC LENSBOARDS ON PACEMAKER GRAPHIC CAMERAS

The Pacemaker Graphic cameras will accept the Super Graphic lensboard assemblies. To attach connecting cords to shutter synchronizer contact posts, loosen the knurled nut or nuts on the back of the Super Graphic lensboard assembly. Turn the fittings away from the contact post or posts and retighten the nuts to make the lensboard assembly light tight. Connecting cords can then be attached directly to the shutter contact flash fittings.

COMPUR SHUTTERS



Cock: Move lever 6 to the right for all speeds including B & T

Trip: Press lever 1 down

Shutter Speeds: Revolve knurled ring 2 until desired shutter speed number is over the index line

B Shutter will stay open as long as lever 1 is held down

T Press lever 1 to open shutter, press again to close

Press Focus: Graphic Compar. Cock shutter (any speed setting)

To OPEN Press down and in on lever 7

To CLOSE Lift lever 7 up

Compur (other types) Cock shutter (any speed setting)

To OPEN Press back on lever 7 while tripping shutter

To CLOSE Recock shutter (shutter blades will have to close before it can be fully recocked)

Diaphragm Setting: Set lever 8 opposite f number desired

Cable Release: Attach at 2 Use tapered tip type or Kodak All Metal

Flash Connection: ASA Bayonet at 4 Use Cat. No. 2808

DIN or PC Connector at 4 Use Cat. No. 2821 or 2721

SYNCHRONIZATION

Electronic Flash Set lever 3 at X Cock and release

SM and SF Bulbs Set lever 3 at X Use shutter speed 1/100 or slower
Cock and release

Type M Bulbs Set lever 3 at M Cock and release

(Set 1 Volt. Compur and Compur Cock shutters) Some of these features will not be in Press-Lens have described. We will have a separate section on the camera. When lever 3 is set at X, cock lever 1 can be moved over to the right. When lever 1 is pressed, shutter blades will open and will stay open. To get rid of this focusing screen, cock lever 3 at B and use locking type cable release to hold shutter open.

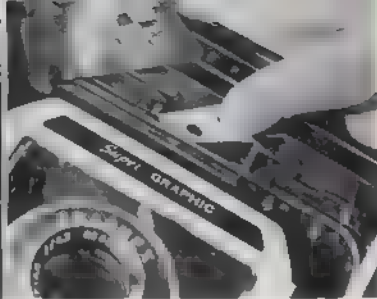


RANGEFINDER

OF THE **SUPER GRAPHIC**

- TO USE**
- 1 Open camera as directed on page 6
 - 2 Set the front standard against the infinity stops. Look into the rangefinder eyepiece and rack the track forward until the image of your subject as seen in the center of the field exactly coincides with the larger stationary image.

The rangefinder is an integral part of the camera body and functions with interchangeable cams each made to match a specific lens. With the proper cam in position the rangefinder and focusing scale pointer will indicate true focus of the lens (unless the front standard adjustment, pages 20-26 are used). Cams for the Graphic Rangefinder on the Pacemaker Graphic 45' cameras *cannot* be used in the rangefinder of the Super Graphic or vice versa.



TO CHANGE THE RANGEFINDER CAM:

1. Open the camera, but *do not* pull the front standard forward
2. Rack the track forward about 2
3. Swing forward the pivoted metal cover from under the rangefinder
4. To remove the cam, pull the free end forward and out
5. To fit cam into the rangefinder, hold it with the long, smooth edge facing the front of the camera. Slide the narrower end of the cam into the slot of the tube and under the rangefinder follower arm. Compression of the spring in the tube will hold the cam in place against the plunger. If the slot appears to be filled by a plunger moving in from the right as seen in the picture, slide the point of the cam between the cap on the spring and the plunger. Push the plunger over, or tip the camera upright and tap lightly. This will open a space for insertion of the cam.
6. Close the metal cover, rack the track back as far as it will go, pull the front standard out to the infinity stops for which this rangefinder cam has just been inserted. The Super Graphic Rangefinder and focusing scale pointer will operate in synchronization with the focusing of the lens.
7. The Super Graphic Rangefinder will synchronize with all properly fitted lenses from wide angle to long focus telephoto, providing the matching cam is used in each instance.

SCALE FOCUSING

The *focusing scale pointer* on the top of the Super Graphic is controlled by the rangefinder cam. No setting or other adjustment is necessary once the correct cam has been inserted into the rangefinder. See page 14. *Be sure to use the proper set of infinity stops.*

FLASH EXPOSURE COMPUTOR

The adjustable *flash exposure scale* combined with the *focusing scale* on the top of the camera automatically indicates the correct diaphragm opening for normal exposures.

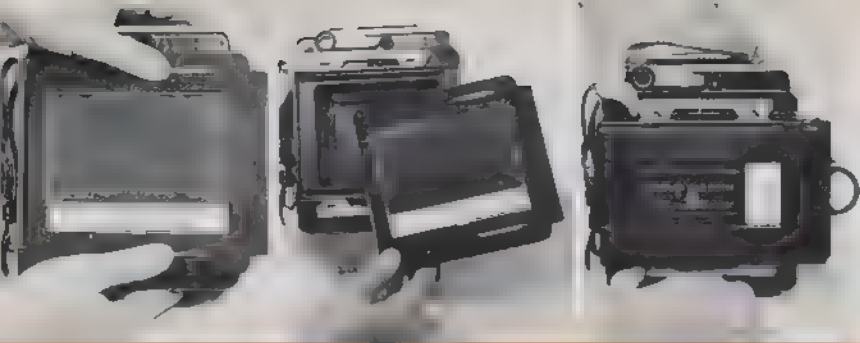
1. From your own experience or data supplied with the film and/or flash being used, select the guide number to produce the type of exposure you prefer.
2. Center this number in the front opening of the plate on top of the camera.
3. Focus the camera with the rangefinder or ground glass. The *focusing scale pointer* will indicate the distance to the subject and from this figure the index line leads to the correct diaphragm opening.



GROUND GLASS FOCUSING

Ground glass focusing is recommended for all critical photography since it allows checking sharpness of focus, depth of field, composition and shape of the image as it is to be recorded on the film. The ground glass must be used whenever the front is tilted shifted or swung from the normal position. The *focusing back* of the Super Graphic Camera has an Ektalite field lens under the ground glass for a brighter image.

1. Press down the latch to open the *focusing hood*
2. To close the hood, first swing the bottom panel upward and then the top downward until it latches.
3. To remove the focusing hood (allowing the use of a magnifying glass over the entire ground glass area), open the hood and pull outward on the top or bottom panel.
4. To reattach the hood, close it and press into the recess, making sure that the catches on both sides engage.
5. The dark slide clip extends all the way across the lower edge of the hood.



FOCUSING BACK

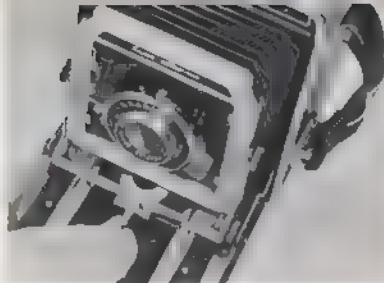
1. To remove the *focusing back*, press inward on the knurled edges of both *focusing back release arms*. Slide across camera about $\frac{1}{4}$ and lift off. Accessories such as the Graphic Roll Holders, Graphic Polaroid Back, etc., can now be attached and held in place by the *slide locks*.
2. Release the *slide locks* by pressing to the left. By pressing the slide locks firmly to the right, any attachment can be held solidly in position.
3. To reattach the *focusing back*, release the slide locks. Place the back approximately in the normal position and slide it $\frac{1}{4}$ to engage the release arms, and it will snap into place.

REVOLVING BACK

The *revolving back* allows vertical and horizontal pictures to be made without readjustment of the camera or lens. The back rotates full circle and remains light tight in any position for both right hand and left hand operation.

1 To revolve the back, press the release at the top left corner of the camera body and turn the back. The release will automatically catch when the back is in the horizontal or vertical position.





BELLOWS EXTENSION

Double bellows extension of the Super Graphic permits use of telephoto lenses up to 15" in focal length and also permits 1:1 copying with 162mm and shorter lenses.

1. To extend bellows, tip the *infinity stops* down, release the *front standard lock*, pull forward and relock. Rack *track* forward as needed.
2. Unless using front adjustments, use care to make sure that the *front standard* is square with the *track* (Lens board parallel to the film plane).

When the lens is focused upon subjects closer than $3\frac{1}{2}'$, it is necessary to recalculate the *f* number in order to determine correct exposure.

1. Divide the marked focal length of the lens into the *bellows extension* you are using to determine the "bellows extension factor."
2. Opposite the "bellows extension factor" on the chart below you can locate the ratio of the image size between the image and the object you are photographing.
3. Use the *exposure factor* to determine the correct exposure just as you would use a *filter factor*. If the factor is 4, increase your exposure two full stops beyond normal.

EXAMPLE: Normal lens length equals 162mm (6") Bellows extension factor" for close-up equals 304mm (12") $\frac{12}{6} = 2$ "bellows extension factor" of 2 which in turn requires "exposure factor" of 4 (assuming a normal aperture of *f*/22 for the photo you would use *f*/11 and get a correctly exposed negative image the same size (1:1) as the original object.

Bellows Extension Factor	Ratio of Image to Object Size	Exposure Factor
1.125	1:8	1.25
1.25	1:4	1.5
1.5	1:2	2.25
1.75	1:1.5	3.0
2.0	1:1	4.0



FRONT STANDARD ADJUSTMENT

Your Super Graphic has 4 important adjustments to raise, shift, swing and tilt the lens and shutter. Each movement may be used independently or with the others. Watch the ground glass make for the improvement or correction that each movement contributes to the appearance of the image. All focusing and composing must be done on the ground glass. Remember that some lenses, notably short focal length lenses may not adequately cover the entire 4x5 negative with a

Clear sharp image when moved or swung from the normal position.

It is generally a rule to keep the back of the camera ~~parallel~~ to the subject unless special effects are desired. The area which will be rendered in sharp focus (depth of field) will be generally parallel to the ground glass. Turning the lens toward a plane at an angle to the camera will bring more of that subject into sharp focus on the film. Note that the subject matter not included in this plane or area may not come into sharp focus even though using the diaphragm will help somewhat.

RISEING

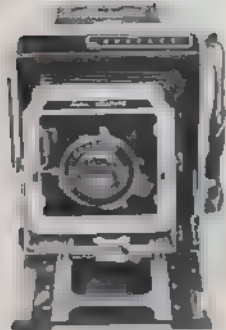
FRONT



The rising front of the Super Graphic permits raising the lens above its normal position and is useful **for vertically centering the** image. Bringing the top of a building into the picture area without tilting the camera will 'straighten up' a tall building and **remove unwanted foreground**.

1. Loosen both rising front lock nuts. Compose and focus your picture on the ground glass—lift the lensboard frame as needed.
2. Tighten the rising front lock nuts before taking the picture.

NOTE Short focal length lenses may not cover the entire negative, inclusive of the corners when they are raised, tilted or otherwise shifted from the normal position.



SIDE

SHIFTING

FRONT

The side shift permits laterally centering the image without swinging the camera, which changes perspective and may cause undesirable distortion

1. Release the front standard lock
2. To shift the front standard sideways, press down the lateral shift release and slide the front standard left or right as desired while observing the effect on the ground glass image
3. When the adjustments are about as you want them by ground glass inspection, tighten the front standard lock slightly, recheck the adjustments and then lock each securely.

LATERAL



SWING

This permits the lens to be turned toward the plane of a subject on the same level as the camera. It is useful to bring into sharp focus an object such as the entire side of a long building extending at an angle away from the camera.

1. Release the front standard lock
2. Fold the infinity stops down
3. Depress the lateral shift release on that side of the release which will be under the forward swing of the front standard and swing the front standard as desired while watching the appearance of the image on the ground glass of the camera
4. When sharpness and composition are correct, tighten the front standard lock slightly, make a final check of the ground glass and adjustments and lock all securely

TILTING FRONT

The tilting front changes the location of the plane of sharp focus, and is thus often considered to provide control over depth of field. The plane affected will lie above or below the camera. It is useful for photographing a ceiling, a floor area from a balcony, or a stairway.

The tilting front can be used for additional applications as described under the heading "Drop Bed".

1. Loosen the tilting front lock nuts.
2. Tilt the lensboard backward (outwards at the bottom) as desired while checking the appearance of the image on the ground glass. Use this adjustment when the subject matter lies above the camera.
3. To tilt the top of the lensboard forward, press down on both tilting front release springs and press the lensboard in at the bottom and out at the top. Check the appearance of the image on the ground glass as you do this. Use this adjustment when the subject matter slopes away from, or lies below the lens.
4. Tighten the lock nuts securely before taking the pictures.



DROP BED

The Drop Bed of the Super Graphic camera is used for two important functions:

- a. To lower the lensboard—the opposite effect of “rising front.”
- b. To eliminate “cut off” when some wide angle lenses are used, particularly when the back is in a vertical position.

Sometimes the subject matter lies below the level of the camera and it is desirable to shift the lens downward.

1. Press downward with your thumbs on the serrated (knurled) areas of both bed braces and the bed will drop into the dropped position.
2. Loosen the tilting front lock nuts slightly and tilt the lensboard backward at the top as far as possible.
3. Loosen the rising front lock nuts. Raise the lensboard as necessary to bring the image into proper alignment and perspective.
4. Check sharpness of the image and tighten all lock nuts.



PRESSLOK TRIPOD MOUNT

The Super Graphic has a standard tripod socket in the bottom of the camera body. In addition, it has a pair of keyhole sockets for use with the PressLok Tripod Mount, Cat. No. 4596.

Attach the PressLok Mount to the tripod with the tripod screw. Now for fast, easy mounting of the Super Graphic.

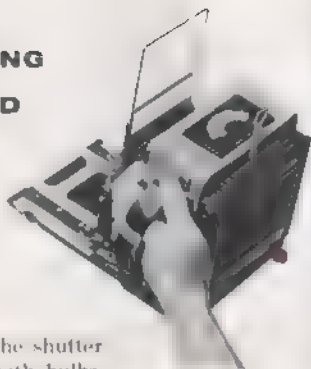
1. Squeeze together the two lock levers on the side of the mount.
2. Locate the Super Graphic so that the two movable posts of the PressLok mount can be inserted into the keyhole sockets of the camera.
3. When the levers are released, the camera will be locked securely to the tripod.
4. To remove camera, squeeze the two lock levers together and lift off.



ELECTRIC SHUTTER TRIPPING SYSTEM BUILT-IN SOLENOID

Concealed in the frame beneath the lensboard is a heavy duty solenoid for tripping the shutter. When the electric shutter tripping button on the camera is pressed, the solenoid depresses the mechanical link built into every Super Graphic lensboard assembly, and trips the shutter.

NOTE: The built in solenoid is for tripping the shutter only, and *not* intended for synchronization with bulbs.



INSERTING BATTERIES IN CAMERA

Two 22 $\frac{1}{2}$ volt flat type* batteries power the BC (Battery Capacitor) circuit built into the Super Graphic. When an interval exceeding 5.8 seconds is required before the shutter can be retripped, the batteries should be replaced.

1. To insert new batteries, remove the battery compartment cover. Press in and to the left on the left end of the cover.

2. Remove old batteries.

3. Insert two fresh flat type "221 $\frac{1}{2}$ " volt batteries side by side in the battery compartment. The red positive (+) and the black negative (-) ends must face out as shown. Do *not* reverse this position of the batteries (red to the left, black to the right).

4. Replace the battery compartment cover.

NOTE: Old batteries sometimes leak, causing corrosion. Do not store the camera with old or well-used batteries in place.

Use batteries such as Eveready No. 412, Ray-O-Vac No. 215.



FLASH PHOTOGRAPHY • GRAFLITE and STROBOFLASH EQUIPMENT

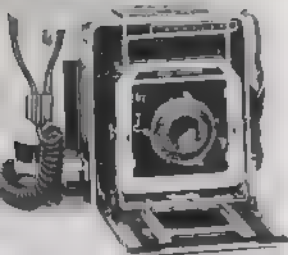


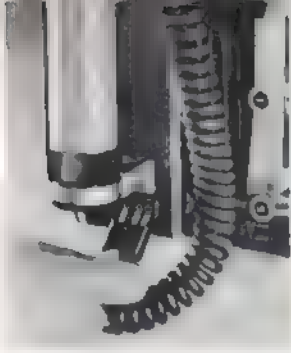
To mount the Graflite Battery Case, fit the bottom battery case clamp to the end cap of the Graflite battery case. The top clamp will have to be readjusted accordingly. (See page 7 of the Graflite manual for adjusting the clamps)

If the Graflite Battery Case is to be used on other cameras fitted with the standard Graflite mounting bracket, the top flash mounting bracket of the Super Graphic Camera should be relocated. Use a suitable screwdriver to avoid damage to the screws. Remove the bracket from the camera and, with a sharp probe, locate the tapped holes about $\frac{1}{8}$ " lower in the camera body concealed under the body covering. Reattach the flash mounting bracket with the insulating material carefully located under the bracket and entirely surrounding the screws.

The Y cord, Cat. No. 2802 makes possible operating the built in solenoid shutter tripper and the firing of a bulb in the Graflite battery case when using the switch on the Graflite battery case or the electric tripping button on the left side of the camera. Standard size D batteries must be left in the Graflite battery case for firing flash bulbs.

Since other types of battery cases do not have the Graflite Circuit control for dividing circuits, they can not be used successfully with the Y cord and the built in BC circuit of the Super Graphic camera.





USING FLASH BULBS IN GRAFLITE



Because of the special BC circuit within the camera, the following instructions apply when the Y cord is used with the standard Graflite battery case. (If the Graflite battery case is to be connected with standard Graflite cords to the solenoid or contact posts on the shutter follow the instructions in the Graflite manual.)

1. Fit the 3-pin polarized plug on the Y cord into the flash cord outlet with the wide spacing between the posts to the rear as shown
2. Insert the 2 plugs identified as REMOTE and SHUTTER into their respective outlets in the Graflite battery case
3. Set the Graflite Selector Switch at #1
4. Set the shutter sync lever for flash bulbs (see pages 10 through 13)
5. The shutter and flash may be tripped by pressing either
 - a. The switch on the Graflite battery case, or
 - b. the electric shutter tripping button on the camera
6. Extensions may be plugged into the EXTENSION outlet. Do not plug any cord into the SOLENOID outlet

STROBOFLASH AND OTHER ELECTRONIC FLASH

The simplest method of using electronic flash is to mount the lamp head in the Strobflash mounting tube or Graflite battery case. Then use the electronic flash cord (Cat. No. 2801) which fits the 3 prong flash cord outlet in the camera.

1. Connect the cord to the camera.
2. Set the synchronizer control lever of the shutter at X (X shutters are automatically adjusted).
3. Trip the shutter by using the electric shutter tripping button on the Super Graphic camera. It will trip the flash.

An alternative arrangement requires the use of a Graflite Battery case and the Y cord connection described on the previous page for flash bulbs. A special jumper cord (Cat. No. 2803) can then connect the EXTENSION outlet with the trip receptacle in the Strobflash lamp head. With this arrangement the flash and shutter may be tripped by either the electric shutter tripping button of the camera or the Graflite battery case switch.*

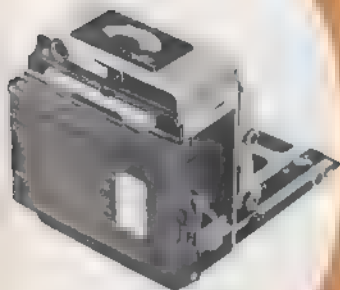
NOTE: Do not attempt to attach the Y cord directly to the trip receptacle in the Strobflash lamp head.



*Attach jumper cord exactly as shown

*Batteries must be in battery case

GRAFOMATIC FILM HOLDER



To fit the Grafmatic film holder, slide it under the focusing back and lock in place with top and bottom slide locks. If more convenient, remove the focusing back first (see page 18) and then lock the Grafmatic in place with the slide locks.

The Graphic Grafmatic film holder, Cat. No. 1268, is one of the most useful accessories for the Super Graphic. It is a magazine type holder about as thick as a film pack adapter and holding 6 sheets of film. Film can be changed in seconds with simple pull-push motion making this accessory most convenient for normal and rapid sequence use. An identification panel is conveniently located on the back. Each film is automatically numbered during each exposure.

Loading instructions accompany each Graphic Grafmatic film holder.



RITEWAY FILM HOLDER

To fit the Riteway Holder to the Camera slide it under the focusing back as far as possible. The dark slide when withdrawn, can be held in the dark slide clip.

Riteway Film Holders Cat No 1284* hold two sheets of film one on each side and are unconditionally warranted for 2 years. The greatest variety of emulsions is available in sheet film. Sheet film must be loaded and unloaded in total darkness but has the advantage of allowing the processing of one or more exposed negatives as desired.

Sheet film comes packed in a box with each piece of film interleaved with a sheet of black paper. While the following instructions may help you we urge you to practice in the light with a piece of exposed film.

To load the holder, withdraw the slide and open the end flap. Handle the film by the edges only, keeping the film code notch in the upper right corner as shown. Slide the film all the way into the channels formed by the metal flanges or lips on all three sides of the film septum in the holder. If the bottom flap does not seat smoothly, the film has not been pushed under the upper end of the septum. Insert the dark slide with the raised dots on the bright side of the handle facing outward indicating that the film is ready to be exposed. Turn the catch or hook to prevent unintentional withdrawal. After exposing the film, reinsert the slide with the black side of the handle facing outward to indicate exposed film.

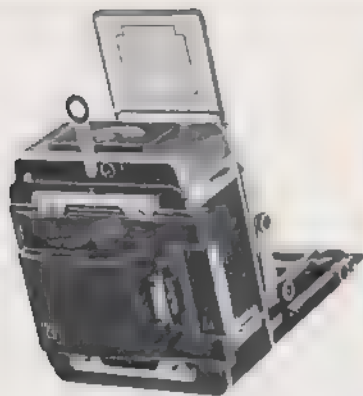
*NOTE Riteway film holders with hard rubber slides required for use with certain types of color film can be ordered with Cat No 1288.

FILM PACK ADAPTER



To fit the Graphic film pack adapter, slide it under the focusing back. If desired the back may be removed, see page 18, and the adapter can be locked in position with the slide locks.

The Graphic film pack adapter Cat. No. 1234 holds a 12-exposure film pack which can be loaded in day light. Film packs are readily obtained and processed, are light and easy to carry. Instructions covering the loading of the film pack adapter will be found on the instruction sheet, packed with the film pack itself.



**GRAPHIC
ROLL
HOLDERS**

To fit the Graphic Roll Holders, remove the focusing back (see page 18) and lock the holder in position with the slide locks.

Graphic roll holders use economical 120 roll films and include automatic exposure counter and dark slides so that the holder can be removed at any time even if unexposed film remains. The holders are available in two models. Use either black and white or color films with these holders.

Cat. No. 1248 8— $2\frac{1}{4}$ x $3\frac{1}{4}$ exposures per roll

Cat. No. 1251 12— $2\frac{1}{4}$ x $2\frac{1}{4}$ exposures per roll

Loading instructions accompany each roll holder.

Order 9102 Mask for sports viewfinder frame to define the smaller area included on roll film.

POLAROID BACK

To fit the Graphic Polaroid Back, remove the focusing back (see page 18) and lock the accessory in position with the slide locks. The design of this accessory requires relocating the front standard about $1\frac{1}{2}$ " behind the normal position. By using the track spacer provided for this purpose, the front standard can be located correctly so that the rangefinder and focusing scale can be used normally.

The Graphic Polaroid Back Cat. No. 9108 lets you combine the advantages of 60-second photography with the versatile shifts, swings, tilts, interchangeable lenses and other features of the Super Graphic Camera. It is useful for checking lighting arrangements, model poses, real estate photography, recording of important laboratory and engineering data as well as many other purposes.

POLAROID FOCUSING PANEL

For full size ground glass focusing, composition and more critical use of the Polaroid Back, the Polaroid Focusing Panel Cat. No. 9288, is available. Required for all closeup photography. This panel attaches exactly as the Polaroid Back. The ground glass is at exactly the same plane of focus as the film in back.

Four Sided Metal Viewing Hood Cat. No. 9146, may be used with the focusing panel if desired.

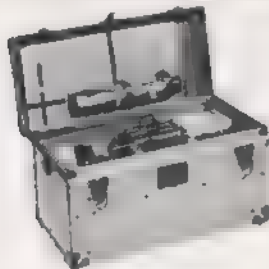


GRAFLOK DIVIDING BACK

The Graflok Dividing Back, Cat. No. 9109 is useful for making two exposures on a single 4x5 film for law enforcement photography, conservation of film for test purposes or low cost portrait photography. The back moves from side to side, eliminating the need of twisting the camera thereby disturbing linear perspective.

Remove the focusing back (see page 18). Attach the Graflok Dividing Back by the slide locks. To focus the image on the new film plane which will be occupied by the holder and the Dividing Back, attach 4x5 Graflok Focusing Panel, Cat. No. 9281. (This is the panel used on the Pacemaker Graphic '45" Graphic View Panels are also accepted.) Four-sided Metal Viewing Hood, Cat. No. 9147, can be used on this focusing panel if desired.

All holders used on the Super Graphic camera can then be attached to the Graflok Dividing Back just as they are attached to the back of the Super Graphic Camera itself. Note that this will require relocating the front standard in order to bring subject matter into focus. If desired, an additional set of infinity stops can be added, so that the rangefinder can be used in a normal manner.

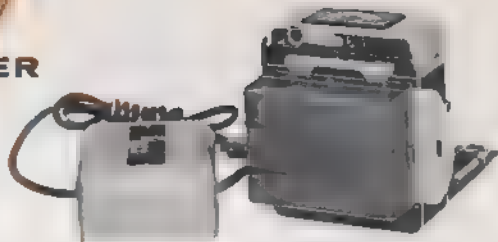


CARRYING CASE

Vulcanoid Handcase for Super Graphic Cat. No. 4266 is made of special fibre. Has reinforced corners, lock, double snaps and shoulder strap. Width 9 $\frac{1}{2}$ " length 19 $\frac{1}{2}$ " depth 11 $\frac{1}{2}$ ". Has room for camera, flash, two reflectors, at least six extra film holders, Rutewav or Grafmatic, lamps, light meter, etc.



GRAFLARGER

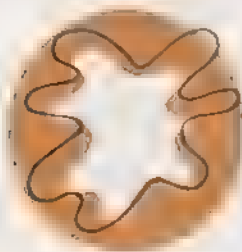


The Graflarger converts your camera for use as an enlarger. Attach to the camera after the focusing back is removed. With the front movements of the Super Graphic you can correct, or otherwise alter undesirable linear perspective in the negative.

The Aristo Cold Gridlite built into the Graflarger is balanced for variable contrast papers and their proper filters. No change in exposure is required when changing filters. Excellent for all black and white enlarging papers. The Graflarger is complete with heavy duty transformer and self-contained glassless negative carrier. U.L. approved. Cat. No. 6019.

GRAFLARGER STAND • This is useful for holding the camera vertically or horizontally while enlarging or copying. Large cast triangular base with 8 sides assures solid support. may be bolted or clamped down. 30" high with adjustable horizontal arm extending outward from 6 $\frac{1}{2}$ " to 10 $\frac{1}{8}$ " from upright column. Cat. No. 6040.

BASEBOARD • Special laminated baseboard, moisture resistant and drilled to accept the bolts for the Graflarger Stand. Size approximately 18x31 $\frac{1}{2}$ inches. Cat. No. 6039.



STROBOFLASH

Stroboflash represents the finest in electronic flash equipment and is the result of years of experience in the design and construction and the supplying of fine electronic flash equipment for news, commercial and other exacting photographic requirements. Thyratron triggering insures against damage to shutter contacts and permits easy slave operation with an inexpensive phototube accessory. The complete line of Stroboflash

includes three different power packs with lamp heads, extension cords, Battery Booster as well as other useful accessories. Each outfit is sold complete with Power Pack, lamp head, rubber battery case adapter and L-Bracket. Stroboflash synchronizes with any "X" contact in the shutter.

STROBOFLASH I

A light weight, compact unit for most convenient operation

Energy Storage . . .	50 watt sec
E.C.P.S. Rating . . .	1200
Flash Duration . . .	1/1400 sec
Recycling Time (with Fresh Batteries) . . .	3 sec
Power Pack Weight . . .	3 lbs 2 oz
Power Pack Size . . .	5 1/2" x 8 3/4" x 1 3/8"





STROBOFLASH II

General purpose unit represents optimum balance of light output and performance with portability and battery life. Twice the light output of the Stroboflash.

Energy Storage
E.C.P.S. Rating
Flash Duration
Recycling Time (with Fresh Batteries)
Power Pack Weight
Power Pack Size

100 watt sec
2300
1/1000 sec
3 sec.
7 lbs. 8 oz.
6 1/2" x 2 3/4" x 4 1/2"

STROBOFLASH IV

Heavy duty all purpose unit. 4-way power switch. Four times the light output of the Stroboflash I.

Shutter Setting	1/4	1/2	3/4	Full
Nominal watt seconds	50	100	150	200
Flash Duration (approx.)	1/2000	1/1800	1/1600	1/1400
E.C.P.S. Rating	1100	2200	3300	4400
Recycling Time (approx.) (with Fresh Batteries)	2 sec.	3 sec.	5 sec.	6 sec.
Guide Numbers				
Color ASA 32	45	66	81	94
Black ASA 200	115	165	200	235
Power Pack Weight	6 lbs. 8 oz.			
Power Pack Size	6 1/2" x 2 3/4" x 4 1/2"			



ASK FOR COMPLETE STROBOFLASH FOLDER



TELEFLASH, CAT. NO. 2024

For Bayonet Base Flash Lamps—a complete, self contained flash unit with built in B C power supply triggered by light sensitive phototube for "Slave" operation. Sold with four 30-volt miniature batteries, Quick Change C clamp, adjustable swivel and phototube.

GRAFLITE EXTENSION FLASH, CAT. NO. 2778

Has adjustable rubber covered spring clamp 15' cord and separate circuits for B C as well as D cell use. Plugs into "Extension" outlet of Graflite Battery Case, accepts Graflite reflectors, 5" - Cat No 2745, for bayonet base lamps, and 7", Cat No 2747, for medium screwbase lamps.



OPTICAL VIEWFINDER, optional, removable

To fit the viewfinder, attach the mount with the screws provided. Tapped holes in the camera body are concealed under the covering and can be located with a sharp probe. See sketch for location.

To attach the viewfinder to the mount, lift the lever on the clip and slide the finder onto the mount, allowing the clip to drop into either the front or back recess as desired. At the rear position, the eye can be placed close to the viewfinder window, but the finder must be moved forward when the back of the camera is revolved.

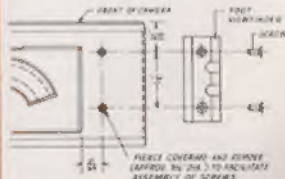
For adjustment of parallax, set the eyepiece dial at the rear with the number corresponding to the distance to the subject opposite the line along the top of the finder.

Interchangeable masks are available to indicate the subject matter included by camera lenses of different focal lengths on different film sizes. Wide angle viewfinder attachment, Cat. No. 3060, when fitted to the front of the finder, determines the field of view included by a 90mm lens on 4x5 film area.



Table Showing Standard Masks and Lenses
For Various Film Sizes (not camera size)

2 1/4 x 3 1/4	4 x 5	Mask No.	2 1/4 x 2 1/4	Mask
	5" - 5 7/8"	4	3 1/4" - 4 1/2"	12
3 1/2" - 3 7/8"	5 3/4" - 6 3/8"	3	4 1/4" - 5"	14
3 3/4" - 4 1/2"	6 1/4" - 6 9/8"	2	5 1/4" - 6"	15
4 1/4" - 5"	6 3/4" - 8 1/2"	9	6 1/4" - 8"	17
5 1/4" - 6"	8 1/4" - 9 1/2"	10	8 1/4" - 11 1/4"	13
6 1/4" - 7 1/2"	9 1/4" - 10 1/2"	11		
7 1/4" - 7 3/4"	10 1/4" - 13 1/2"	8		
7 1/2" - 9 1/2"	13 1/4" - 15"	7		
9 1/4" - 11 1/2"	15 1/4" - 16 1/4"	6		
11 1/4" - 13"	16 1/4" - 20"	5		



ACCESSORY LENSES

Basically, lenses are grouped under three headings: Normal, Wide Angle and Telephoto.

All lenses, regardless of the focal length or design, have standard diaphragm openings and require no change in exposure calculations when used under normal conditions.

The angular field of view and the size of the image are important essentials in selecting a lens, although maximum aperture or speed is a strong determining factor.

A normal lens usually has a focal length equal to either the long side or diagonal of the film area. Its maximum aperture or speed may vary greatly, but $f/4.5$ is usual on the Super Graphic. These lenses have a medium angular field for general purpose work.

A wide angle lens is especially designed to include a greater angular field of view and has a short focal length. It has great depth of field, but even so is generally used at the smaller diaphragm openings. These lenses permit only limited use of

the front standard movements. The lens will usually come to focus with the front standard at the rear of the sliding track.

Telephoto lenses are also especially designed and constructed. They have a very narrow angular field of view, maximum diaphragm openings of around $f/5.6$ and produce a much larger image than a normal or wide angle lens at the same camera subject distance. They are particularly suited to portrait, scenic and sports photography. They require less bellows extension than normal lenses of the same focal length. Consequently, the 25cm (10") and the 38cm (15") Tele-Optar $f/5.6$ lenses can be used on the Super Graphic Camera, providing magnifications of 2 \times and 3 \times respectively over the size of the image produced by standard 127mm (5") lens.

When using telephoto lenses, insert Mask Cat. No. 9101 into the open frame-finder. Insert the bottom end first and then slip the coiled wire top of the finder into the groove at the top of the mask.



CARE OF YOUR CAMERA

You have purchased a fine camera, carefully designed, produced and tested. It should give you long and most satisfactory service. Protect it from dust and dirt and avoid rough handling; and if possible, keep the camera closed and in the carrying case when it is not in use.

Do not attempt to make any repairs to the shutter and never oil a camera shutter. If it needs attention, turn it over to a competent camera mechanic. Remember that, on general principles, it is a good idea to have the complete camera checked over every few years to keep it in tip top shape. Be sure to keep the contact springs on the inside of the lensboard frame and the corresponding points on the back of the lensboard assembly free from dust and dirt, so that the built-in electrical system of the camera will function properly.

The surface of the lens has received a special hard coating, which will reduce internal reflections and help you make better negatives. Clean the lens carefully, with smooth, easy motions using a camel's hair brush or lens tissue. Moisten the tissue with a drop or two of lens cleaner, but do not apply the cleaner to the surface of the lens.

Your Graflex Dealer is ready to be of service in discussing your camera and its use, and over-the-counter discussions of your pictures will be very helpful to you. The Graflex Consumer Correspondence Department is also at your service to assist you in getting the most out of your Super Graphic Camera. Do not hesitate to write about any photographic problems which you may have. Should such questions relate to the making of pictures, be sure to send in your negatives and such exposure data as you may have available.

FACTORY SERVICE

Graflex Service Centers are located at the addresses given here and are equipped to inspect, clean and adjust all Graflex products and fit accessories and special lenses. While such correspondence should be addressed to the Service Center nearest you, your Graflex Dealer will be glad to take care of the details of packing and shipping equipment for attention. He may also be able to provide such services so that the camera need not be sent away.

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